

Subject Index

- Activated carbon fibres
 Porous carbon 335
- Active-R
 A third-order active-R filter with feed forward input signal 1019
- Alumina
 Fatigue behaviour of fine grained alumina hip-joint heads under normal walking conditions 589
- Aluminium matrix composites
 Aluminium matrix composites: Challenges and opportunities 319
- Aluminium oxide
 Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Aluminium–lithium alloys
 Mechanical behaviour of aluminum–lithium alloys 209
- Applications of AMCs
 Aluminium matrix composites: Challenges and opportunities 319
- ARMA model
 Time-variant power spectral analysis of heart rate time series by autoregressive moving average (ARMA) method 1027
- Aspheric and plano grinding
 Ductile streaks in precision grinding of hard and brittle materials 915
- Austenitic stainless steels
 Solidification cracking in austenitic stainless steel welds 359
- Behaviour based robotics
 Evolutionary robotics – A review 999
- β -Titanium alloys
 Effect of hydrogen mechanical properties of β -titanium alloys 453
- Biocompatibility
 Biomaterials and tissue engineering in reconstructive surgery 563
- Biological heart valve
 Developments in mechanical heart valve prosthesis 575
- Biomaterials
 Biomaterials and tissue engineering in reconstructive surgery 563
- Biomimetics
 Biomimetics 657
- Biomimetalisation
 Biomimetics 657
- Bonding
 Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Brittle to ductile transition
 Effect of hydrogen mechanical properties of β -titanium alloys 453
- Brittle-ductile transition
 Micro-machining of optical glasses – A review of diamond-cutting glasses 945
- Bulk material glass
 Bulk metallic glasses: A new class of engineering materials 783
- Carbon doping
 Superconductivity in MgB_2 : Phonon modes and influence of carbon doping 263
- Carbon equivalent
 Influence of alloying on hydrogen-assisted cracking and diffusible hydrogen content in Cr–Mo steel welds 383
- Carbon fibres
 High performance carbon-carbon composites 349
- Carbon-carbon composites
 High performance carbon-carbon composites 349
- Case histories
 Recent trends in repair and refurbishing of steam turbine components 395
- Ceramic injection moulding
 Ceramic microfabrication by rapid prototyping processes chains 307
- Chemical ordering
In-situ studies on phase transformations under electron irradiation in a high voltage electron microscope 799

- Chromium steels
 Recent advances in creep resistant steels for power plant applications 709
- Codes and regulations
 Recent trends in repair and refurbishing of steam turbine components 395
- Cold cracking
 Hydrogen embrittlement in power plant steels 431
- Composite coating
 Electroless alloy/composite coating: A review 475
- Composition effects
 Solidification cracking in austenitic stainless steel welds 359
- Compressive stress on the shear plane
 The size effect in metal cutting 875
- Computer-based modelling
 Twentieth Century evolution of machining in the United States – An interpretative review 867
- Consonant primitives
 Recognition of Pitman shorthand text using tangent features values at word level 1037
- Constraint effect
 Ductile fracture behavior of primary heat transport piping material of nuclear reactors 167
- Contour traversal
 Recognition of Pitman shorthand text using tangent features values at word level 1037
- Control of hydrogen embrittlement
 Hydrogen embrittlement in power plant steels 431
- Convergence angle
 Convergent beam electron diffraction – A novel technique for materials characterisation at sub-microscopic levels 763
- Convergent beam electron diffraction
 Convergent beam electron diffraction – A novel technique for materials characterisation at sub-microscopic levels 763
- Corrosion resistance
 Bulk metallic glasses: A new class of engineering materials 783
- Crack growth
 Fatigue behaviour of fine grained alumina hip-joint heads under normal walking conditions 589
- Creep
 Rafting in single crystal nickel-base superalloys – An overview 115
- Toughening and creep multiphase intermetallics through microstructural control 677
- Creep structure strength
 Recent advances in creep resistant steels for power plant applications 709
- Critical current density
 Critical current densities in superconducting materials 273
- Cr–Mo steels
 Influence of alloying on hydrogen-assisted cracking and diffusible hydrogen content in Cr–Mo steel welds 383
 Optimisation of post-weld treatment – A simple practical method 409
- Cubic boron nitride
 Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Cutoff frequencies
 Effect of deformation and dielectric filling on electromagnetic propagation through waveguide 1011
- Cyclic deformation behaviour
 Cyclic deformation behaviour of austenitic steels at ambient and elevated temperatures 187
- Cyclic J-R curve
 Ductile fracture behavior of primary heat transport piping material of nuclear reactors 167
- Density function
 Computational materials science: The emergence of predictive capabilities of material behaviour 815
- Depression
 Effect of deformation and dielectric filling on electromagnetic propagation through waveguide 1011
- Diamond coated tools
 A comparative machining study of diamond coated tools made by plasma torch, microwave and hot filament techniques 933
- Diamond cutting
 Micro-machining of optical glasses – A review of diamond-cutting glasses 945
- Diamond turning machines
 Machining and metrology systems for free-form laser printer mirrors 925
- Dielectric filling
 Effect of deformation and dielectric filling on electromagnetic propagation through waveguide 1011

- Diffusible hydrogen content
 Influence of alloying on hydrogen-assisted cracking and diffusible hydrogen content in Cr–Mo steel welds 383
- Dislocations
 Dynamics of micromechanisms controlling the mechanical behaviour of industrial single crystal superalloys 129
- Displacement ordering
In-situ studies on phase transformations under electron irradiation in a high voltage electron microscope 799
- Dissemination of R&D
 Teaching material science and engineering 859
- Dissimilar metal weldments
 Optimisation of post-weld treatment – A simple practical method 409
- Double layer capacitor
 Porous carbon 335
- DSC
 Changes in polymer foils used in food packaging tested by using DSC 991
- Ductile fracture
 Optimisation of post-weld treatment – A simple practical method 409
- Ductile regime
 Nano finish grinding of brittle materials using electrolytic in process dressing (ELID) technique 957
- Ductile streaks
 Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Duplex stainless steels
 Interplay of microbiological corrosion and alloy microstructures in stress corrosion cracking of weldments of advanced stainless steels 467
- Dynamic material modelling
 A holistic approach to thermomechanical processing of alloys 833
- Eigen value
 Plane strain problem in microstretch elastic solid 975
- Electroless bath
 Electroless alloy/composite coating: A review 475
- Electroless nickel
 Electroless alloy/composite coating: A review 475
- Electron irradiation
In-situ studies on phase transformations under electron irradiation in a high voltage electron microscope 799
- Electron microscopy
In-situ studies on phase transformations under electron irradiation in a high voltage electron microscope 799
- Electronic materials
 Nanostructured electronic and magnetic materials 81
- ELID
 Nano finish grinding of brittle materials using electrolytic in process dressing (ELID) technique 957
- Enthalpy
 Changes in polymer foils used in food packaging tested by using DSC 991
- Evolutionary robotics
 Evolutionary robotics – A review 999
- Excellence in science
 Teaching material science and engineering 859
- Fashion and nonfashion
 Freedom and fashion in materials science and engineering 17
- Fatigue
 Cyclic deformation behaviour of austenitic steels at ambient and elevated temperatures 187
 Fatigue behaviour of fine grained alumina hip-joint heads under normal walking conditions 589
- Fatigue behaviour
 Effect of hydrogen mechanical properties of β -titanium alloys 453
- Feedforward
 A third-order active-R filter with feed forward input signal 1019
- Femoral heads
 Fatigue behaviour of fine grained alumina hip-joint heads under normal walking conditions 589
- Filters
 A third-order active-R filter with feed forward input signal 1019
- Finite element method
 Effect of deformation and dielectric filling on electromagnetic propagation through waveguide 1011

- Flow and fracture
 Bulk metallic glasses: A new class of engineering materials 783
- Food packaging
 Changes in polymer foils used in food packaging tested by using DSC 991
- Form accuracy
 Machining and metrology systems for free-form laser printer mirrors 925
- Fracture mechanics
 Thermomechanical fatigue – Damage mechanisms and mechanism-based life prediction methods 147
- Fragility
 Bulk metallic glasses: A new class of engineering materials 783
- Fatigue crack propagation
 Thermomechanical fatigue – Damage mechanisms and mechanism-based life prediction methods 147
- Free-form mirrors
 Machining and metrology systems for free-form laser printer mirrors 925
- Ge, Si and glass
 Ductile streaks in precision grinding of hard and brittle materials 915
- Glass
 Micro-machining of optical glasses – A review of diamond-cutting glasses 945
- Glass forming ability
 Bulk metallic glasses: A new class of engineering materials 783
- Grain boundaries
 Characterisation of interfaces in nanocrystalline palladium 47
- Grain/interphase boundary sliding
 Thermally assisted deformation of structural superplastics and nanostructured materials: A personal perspective 97
- Grinding wheel
 Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Heart rate variability
 Time-variant power spectral analysis of heart rate time series by autoregressive moving average (ARMA) method 1027
- Hierarchical structures
 Biomimetics 657
- High temperature materials
 High performance carbon-carbon composites 349
- Hip-joint
 Fatigue behaviour of fine grained alumina hip-joint heads under normal walking conditions 589
- Holography
 Convergent beam electron diffraction – A novel technique for materials characterisation at sub-microscopic levels 763
- HRTEM
 Characterisation of interfaces in nanocrystalline palladium 47
- Hydrogen diffusion
 Effect of hydrogen mechanical properties of β -titanium alloys 453
- Hydrogen diffusivity
 Influence of alloying on hydrogen-assisted cracking and diffusible hydrogen content in Cr–Mo steel welds 383
- Hydrogen embrittlement
 Hydrogen embrittlement in power plant steels 431
 Effect of hydrogen mechanical properties of β -titanium alloys 453
- Hydrogen solubility
 Effect of hydrogen mechanical properties of β -titanium alloys 453
- Hydrogen-assisted cracking
 Influence of alloying on hydrogen-assisted cracking and diffusible hydrogen content in Cr–Mo steel welds 383
- Hydroxyapatite
 Corrosion of bio implants 601
- IMI 834
 Thermomechanical fatigue – Damage mechanisms and mechanism-based life prediction methods 147
- Impulsive force
 Plane strain problem in microstretch elastic solid 975
- In situ* deformation
 Dynamics of micromechanisms controlling the mechanical behaviour of industrial single crystal superalloys 129
- Infrared spectroscopy
 Superconductivity in MgB_2 : Phonon modes and influence of carbon doping 263
- Integral transform
 Plane strain problem in microstretch elastic solid 975
- Intelligent forming
 A holistic approach to thermomechanical processing of alloys 833

- Interface
 Melting behaviour of lead and bismuth nanoparticle in quasicrystalline matrix – The role of interfaces 63
- Interfaces
 Characterisation of interfaces in nanocrystalline palladium 47
- Intermetallic compounds
 Physical metallurgy of nickel aluminides 247
- Kinetics of rafting
 Rafting in single crystal nickel-base superalloys – An overview 115
- Laser processing
 Laser processing of materials 495
- Laser surface vitrification
 Laser processing of materials 495
- Laser-matter interaction
 Laser processing of materials 495
- Lattice parameter
 Convergent beam electron diffraction – A novel technique for materials characterisation at sub-microscopic levels 763
- Life prediction
 Thermomechanical fatigue – Damage mechanisms and mechanism-based life prediction methods 147
- LIGA
 Micro powder injection moulding of metals and ceramics 299
- Lightweight alloys
 Mechanical behaviour of aluminum–lithium alloys 209
- Low cycle fatigue
 High temperature fatigue behaviour of intermetallics 695
- Machining process
 Twentieth Century evolution of machining in the United States – An interpretative review 867
- Magnetic alloys
 Nanocrystalline magnetic alloys and ceramics 283
- Magnetic biomaterials
 Biomaterials and magnetism 639
- Magnetic field dependence
 Critical current densities in superconducting materials 273
- Magnetic intercellular hyperthermia
 Biomaterials and magnetism 639
- Magnetic materials
 Nanostructured electronic and magnetic materials 81
- Magnetic media
 Nanostructured electronic and magnetic materials 81
- Magnetic phases
 Nanocrystalline magnetic alloys and ceramics 283
- Magnetism in human health
 Biomaterials and magnetism 639
- Manufacturing
 Twentieth Century evolution of machining in the United States – An interpretative review 867
- Materials design
 Computational materials science: The emergence of predictive capabilities of material behaviour 815
- Materials processing
 Nanostructured electronic and magnetic materials 81
- Mechanical alloys
 Mechanical behaviour of aluminum–lithium alloys 209
- Mechanical heart valve
 Developments in mechanical heart valve prosthesis 575
- Mechanical/thermal properties
 High performance carbon-carbon composites 349
- Medical device
 Biomaterials and tissue engineering in reconstructive surgery 563
- Medical signal processing
 Time-variant power spectral analysis of heart rate time series by autoregressive moving average (ARMA) method 1027
- Melting
 Melting behaviour of lead and bismuth nanoparticle in quasicrystalline matrix – The role of interfaces 63
- MEMS/MOEMS
 Micro powder injection moulding of metals and ceramics 299
- Metal-cutting tools
 A comparative machining study of diamond-coated tools made by plasma torch, microwave and hot filament techniques 933

- Metastable austenitic steel
 Cyclic deformation behaviour of austenitic steels at ambient and elevated temperatures 187
- Metastable phases
 Structure and thermal stability of nanocrystalline materials 23
- MgB₂
 Superconductivity in MgB₂: Phonon modes and influence of carbon doping 263
- Micro-alloying
 High temperature fatigue behaviour of intermetallics 695
- Microbiological corrosion
 Interplay of microbiological corrosion and alloy microstructures in stress corrosion cracking of weldments of advanced stainless steels 467
- Micro-CIM
 Micro powder injection moulding of metals and ceramics 299
- Microcomponents
 Ceramic microfabrication by rapid prototyping processes chains 307
- Micro-MIM
 Micro powder injection moulding of metals and ceramics 299
- Microporosity
 Porous carbon 335
- Microstretch elastic solid
 Plane strain problem in microstretch elastic solid 975
- Microstructure
 Physical metallurgy of nickel aluminides 247
- Microstructure
 Aluminium matrix composites: Challenges and opportunities 319
- Microsystems technology
 Micro powder injection moulding of metals and ceramics 299
- Microtechnology
 Ceramic microfabrication by rapid prototyping processes chains 307
- Monotonic J-R curve
 Ductile fracture behaviour of primary heat transport piping material of nuclear reactors 167
- Empirical modelling
 Twentieth Century evolution of machining in the United States – An interpretative review 867
- Multiphase intermetallics
 Toughening and creep multiphase intermetallics through microstructural control 677
- Multistructural control
 Toughening and creep multiphase intermetallics through microstructural control 677
- N₂-bearing steels
 Future developments and applications of nitrogen-bearing steels and stainless steels 731
- Nanostructured plastics
 Thermally assisted deformation of structural superplastics and nanostructured materials: A personal perspective 97
- Nanocomposites
 Melting behaviour of lead and bismuth nanoparticle in quasicrystalline matrix – The role of interfaces 63
- Nanocrystalline
 Nanocrystalline magnetic alloys and ceramics 283
- Nanocrystalline materials
 Structure and thermal stability of nanocrystalline materials 23
- Nanocrystalline palladium
 Characterisation of interfaces in nanocrystalline palladium 47
- Nanocrystalline structure
 Structure and thermal stability of nanocrystalline materials 23
- Nanocrystallisation
 Bulk metallic glasses: A new class of engineering materials 783
- Nanodiffraction
 Convergent beam electron diffraction – A novel technique for materials characterisation at sub-microscopic levels 763
- Nano-grinding
 Nano finish grinding of brittle materials using electrolytic in process dressing (ELID) technique 957
- Nanomaterials
 Melting behaviour of lead and bismuth nanoparticle in quasicrystalline matrix – The role of interfaces 63
- Nanomaterials
 Nanostructured electronic and magnetic materials 81
 Computational materials science: The emergence of predictive capabilities of material behaviour 815

- Nanostructured materials
Freedom and fashion in materials science and engineering 17
- Ni₃Al
Physical metallurgy of nickel aluminides 247
- NiAl
Physical metallurgy of nickel aluminides 247
- Nickel aluminides
High temperature fatigue behaviour of intermetallics 695
- Nitrogen alloying
Future developments and applications of nitrogen-bearing steels and stainless steels 731
- Orthopaedic implants
Corrosion of bio implants 601
- Parabolic growth of γ -channel width
Rafting in single crystal nickel-base superalloys – An overview 115
- Passband
A third-order active-R filter with feed forward input signal 1019
- Phase change
Changes in polymer foils used in food packaging tested by using DSC 991
- Phase transformations
In-situ studies on phase transformations under electron irradiation in a high voltage electron microscope 799
- Pitman shorthand
Recognition of Pitman shorthand text using tangent features values at word level 1037
- Pitman word
Recognition of Pitman shorthand text using tangent features values at word level 1037
- Plasticity
Dynamics of micromechanisms controlling the mechanical behaviour of industrial single crystal superalloys 129
- Plasticity-induced martensite
Cyclic deformation behaviour of austenitic steels at ambient and elevated temperatures 187
- Polishing
Ductile streaks in precision grinding of hard and brittle materials 915
- Polymers
Changes in polymer foils used in food packaging tested by using DSC 991
- Porous carbon
Porous carbon 335
- Post-weld treatment
Optimisation of post-weld treatment – A simple practical method 409
- Powder injection moulding
Micro powder injection moulding of metals and ceramics 299
- Powder processing
Nanostructured electronic and magnetic materials 81
- Power plant components
Hydrogen embrittlement in power plant steels 431
- Power/plant components
Recent advances in creep resistant steels for power plant applications 709
- Precision grinding
Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Processing of AMCs
Aluminium matrix composites: Challenges and opportunities 319
- Profilers
Study of engineering surfaces using laser-scattering techniques 739
- Protrusion
Effect of deformation and dielectric filling on electromagnetic propagation through waveguide 1011
- Quasicrystal
Melting behaviour of lead and bismuth nanoparticles in quasicrystalline matrix – The role of interfaces 63
- Rafting and multiaxial stress states
Rafting in single crystal nickel-base superalloys – An overview 115
- Rapid manufacturing
Ceramic microfabrication by rapid prototyping process chains 307
- Rapid prototyping
Ceramic microfabrication by rapid prototyping process chains 307
- Reciprocal lattices
Convergent beam electron diffraction – A novel technique for materials characterisation at sub-microscopic levels 763
- Repair philosophy
Recent trends in repair and refurbishing of steam turbine components 395

- Repair welding
Recent trends in repair and refurbishing of steam turbine components 395
- Research choices
Freedom and fashion in materials science and engineering 17
- Resistivity
Superconductivity in MgB_2 : Phonon modes and influence of carbon doping 263
- Robot control system
Evolutionary robotics – A review 1011
- Roughness
Study of engineering surfaces using laser-scattering techniques 739
- SA333 steel
Ductile fracture behaviour of primary heat transport piping material of nuclear reactors 167
- Scattering
Study of engineering surfaces using laser-scattering techniques 739
- Science-based modelling
Twentieth Century evolution of machining in the United States – An interpretative review 867
- Single crystal alloys
Rafting in single crystal nickel-base superalloys – An overview 115
- Soft magnetism
Bulk metallic glasses: A new class of engineering materials 783
- Solidification cracking
Solidification cracking in austenitic stainless steel welds 359
- Specular reflection
Study of engineering surfaces using laser-scattering techniques 739
- Stainless steel
A holistic approach to thermomechanical processing of alloys 833
- Stainless steels
Future developments and applications of nitrogen-bearing steels and stainless steels 731
- Steam oxidation
Recent advances in creep resistant steels for power plant applications 709
- Steam turbine components
Recent trends in repair and refurbishing of steam turbine components 395
- Steels
Hydrogen embrittlement in power plant steels 431
- Stress corrosion cracking
Interplay of microbiological corrosion and alloy microstructures in stress corrosion cracking of weldments of advanced stainless steels 467
- Stretch zone
Ductile fracture behaviour of primary heat transport piping material of nuclear reactors 167
- Structural defects
The size effect in metal cutting 875
- Structural superplastics
Thermally assisted deformation of structural superplastics and nanostructured materials: A personal perspective 97
- Superalloys
Dynamics of micromechanisms controlling the mechanical behaviour of industrial single crystal superalloys 129
- Superabrasive grinding wheels
Nano finish grinding of brittle materials using electrolytic in process dressing (ELID) technique 957
- Superconducting materials
Critical current densities in superconducting materials 273
- Superconductivity
Superconductivity in MgB_2 : Phonon modes and influence of carbon doping 263
- Superhard materials
A comparative machining study of diamond coated tools made by plasma torch, microwave and hot filament techniques 933
- Supramolecular chemistry
Biomimetics 657
- Surface area
Porous carbon 335
- Surface finish
Machining and metrology systems for free-form laser printer mirrors 925
- Surface integrity
Ductile streaks in precision grinding of hard and brittle materials 915
- Surface modification
Corrosion of bio implants 601
- Susceptibility
Superconductivity in MgB_2 : Phonon modes and influence of carbon doping 263

- Tangents
 Recognition of Pitman shorthand text using tangent features values at word level 1037
- Teaching materials science
 Teaching materials science and engineering 859
- Tensile tests
 Optimisation of post-weld treatment – A simple practical method 409
- Thermal stability
 Structure and thermal stability of nanocrystalline materials 23
- Thermomechanical fatigue
 Thermomechanical fatigue – Damage mechanisms and mechanism-based life prediction methods 147
- Thinning
 Recognition of Pitman shorthand text using tangent features values at word level 1037
- Third order
 A third-order active-R filter with feed forward input signal 1019
- Tissue engineering
 Biomaterials and tissue engineering in reconstructive surgery 563
- Titanium aluminides
 High temperature fatigue behaviour of intermetallics 695
- Toughening
 Toughening and creep multiphase intermetallics through microstructural control 677
- Transport of microcracks
 The size effect in metal cutting 875
- Triple line junctions
 Characterisation of interfaces in nanocrystalline palladium 47
- Two dimensional plane
 Plane strain problem in microstretch elastic solid 975
- Valve design
 Developments in mechanical heart valve prosthesis 575
- Valve performance
 Developments in mechanical heart valve prosthesis 575
- Varestraint testing
 Solidification cracking in austenitic stainless steel welds 359
- Vowel markers
 Recognition of Pitman shorthand text using tangent features values at word level 1037
- Waveguide
 Effect of deformation and dielectric filling on electromagnetic propagation through waveguide 1011
- Wear
 Controlled wear of vitrified abrasive materials for precision grinding applications 897
- Welding
 Influence of alloying on hydrogen-assisted cracking and diffusible hydrogen content in Cr–Mo steel welds 383
- X8019
 Thermomechanical fatigue – Damage mechanisms and mechanism-based life prediction methods 147